

## **EXHIBIT 11-A**

Fact Sheet Exception To Mandatory Design Standards

# FACT SHEET EXCEPTIONS TO MANDATORY DESIGN STANDARDS

Prepared by:



Cheng Y. Yang, PE  
Project Engineer  
Freeway Systems B



Submitted by



Lester Lee  
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3/11/09

Date

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Recommended  
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Al B Lee  
Project Manager

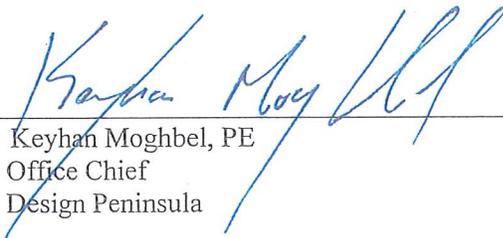
3/11/09

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Concurrence by



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Michael W. Thomas  
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Date

**1. PROPOSED PROJECT AND NONSTANDARD FEATURES**

**A. PROJECT DESCRIPTION**

This project proposes to complete the installation and implementation of the ramp metering systems along US101 in San Mateo County, in both the northbound and southbound directions. The project proposes to include upgrading and installing ramp metering systems on existing non-metered on-ramps, and making improvements to existing operational ramp meters. The project also includes widening of some on-ramps to provide for High Occupancy Vehicle (HOV) preferential lanes, and the installation of Maintenance Vehicle Pullout (MVP) areas. The project limits are from the Santa Clara County line to the San Francisco County line, in San Mateo County on US101.

The purpose of this project is to reduce mainline congestion during peak travel hours. The implementation of ramp metering systems will minimize gridlock of the freeway system, decrease travel time and improve mobility through the corridor during both morning and evening peak hours.

The project is a proposed candidate for inclusion in the 201.315 Mobility Program of the 2008 State Highway Operation and Protection Plan (SHOPP) for the 2010/2011 fiscal year. The estimated capital cost in 2008 for the project is \$9,600,000.

**B. EXISTING HIGHWAY**

In 2007, a series of ramp meters on US101 were activated and put into operation from the Santa Clara County line to the Hillsdale Boulevard interchange. These meters are in operation during both the morning and afternoon peak periods for both directions of US101.

Project EA #235611, is currently in the PS&E phase to modify the US 101/Willow Road interchange. The project will widen both the northbound and the southbound loop and diagonal on-ramps of the US 101/Willow Road interchange. This project will also be adding HOV preferential lanes and metering equipment for each on-ramp in the interchange to US101.

Project EA #264204 is currently in construction phase and is installing auxiliary lanes between the on and off-ramps on both the northbound and southbound directions of US 101, between the East 3rd Avenue interchange in the City of San Mateo and the Millbrae Avenue interchange in the City of Millbrae. This project is installing ramp metering equipment on all on-ramps within its project limits.

**C. SAFETY IMPROVEMENTS**

The purpose of this project is to improve traffic operations on the US101 corridor in San Mateo County. Due to high demand, this freeway currently experiences heavy

congestion. Because ramp metering has proven to reduce congestion, it is expected that the numbers of congestion related accidents will also be decreased

**D. TOTAL PROJECT COST**

The estimated construction cost of this proposed project, in 2008 dollars, is \$9.6 million. The cost breakdown is as follows:

Roadway	\$ 9.59 million
<u>Right of Way</u>	<u>\$ 0.01 million</u>
Total Costs	\$ 9.60 million

**2. FEATURES REQUIRING AN EXCEPTION**

**a. Design Exception Feature #1**

**Nonstandard Features:**

NB101/Fashion Island Diagonal On-Ramp: The existing curve (520 ft radius) off of Fashion Island Boulevard has nonstandard superelevation e rates of 0.05. This project proposes to re-stripe and install the necessary ramp metering equipment to complete and operate the ramp metering system. The final configuration of this on-ramp will be 2-lanes, with 1- mixed flow and 1- HOV preferential lane, up to the ramp meter limit line of the on-ramp.

No superelevation improvements are proposed for this ramp and the nonstandard superelevation will be maintained.

**Standard for Which Exception Is Requested:**

**Index 202.2 Standards for Superelevation – Ramps, range of curve radii from 625 ft & under, e rate 0.12.**

**Reason for Requesting Exception:**

The NB101/Fashion Island Diagonal on-ramp is an existing ramp meter installed under project EA# 235774. This on-ramp was widened to 2-lanes with 4 ft left and 8 ft. right shoulders, but was striped for 1-lane after construction.

The existing superelevation rate is 0.05 for the curve beginning just north of Fashion Island Blvd. Using interpolation between 25 mph at the terminus and 50 mph at the gore speeds at this curve are expected to be less than 30 mph., by Figure 202.2, the maximum comfortable speed is 40mph. Upgrading the existing nonstandard superelevation rate to HDM standards would require significant ramp and drainage reconstruction and probable right of way acquisition for grading catch points. Additionally it might affect footings for

structure viaducts. The gain in benefits is insignificant as compared to the costs of reconstructing the on-ramp.

Right of Way is constrained on the north side of the on-ramp, and lowering an existing drainage system are very costly additions to this project. The accident history of the on-ramp has shown that the existing nonstandard superelevation has not caused accidents along the on-ramp.

**Added Cost to Make Standard (Dose not included cost of environmental impacts):**

Roadway work	\$8,000,000
R/W	\$2,000,000.
Total	\$10,000,000 (estimated)

**b. Design Exception Feature #2**

**Nonstandard Features:**

SB101/Harney Way Hook On-Ramp: The existing 162 ft radius curve approaching the freeway has nonstandard superelevation with an e rate of 0.08. No superelevation improvements are proposed for this ramp and the existing nonstandard superelevation will be maintained.

**Standard for Which Exception Is Requested:**

**Index 202.2 Standards for Superelevation – Ramps, range of curve radii 625 ft & under, e rate 0.12.**

**Reason for Requesting Exception:**

The existing hook on-ramp was constructed under project EA# 415104. This on-ramp currently varies from 2 to 1 lane wide, with 4 ft left and 8 ft. right shoulders. The ramp has an operational ramp metering system metering for post game and after special events from nearby Candlestick Park. When metered, this on-ramp operates as a 2-lane mixed flow metered on-ramp. This project proposes to overlay, re-stripe ramp to a standard 2-lane metered on-ramp with standard shoulders, and upgrade existing ramp metering equipment to current standards.

The existing superelevation rate of 0.08 occurs just east of the intersection where the ramp terminates, by Figure 202.2, the maximum comfortable speed is 45mph which is higher than the 25 mph design required for the ramp terminus. The roadway tangent section between the ramp entrance and the beginning of the curve as well as curve radius and length of curve are very short. Upgrading the existing nonstandard superelevation rate in accordance with the 2006 Highway Design Manual would involve upgrading the superelevation rate to 0.12. This Standard superelevation rate and transition cannot be attained within this curve. In addition, the accident history of the on-ramp, have shown

that the existing nonstandard superelevation has not caused accidents along the ramp. Thus, no safety problems are expected to result from the existing superelevation rate.

**Added Cost to Make Standard (Dose not included cost of environmental impacts):**

Roadway work	\$6,000,000 (estimated)
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**c. Design Exception Feature #3**

SB101/Produce Avenue Diagonal On-Ramp: The existing 3000 ft radius curve approaching the freeway has nonstandard superelevation with an e rate of 0.02. No superelevation improvements are proposed for this ramp and the existing nonstandard superelevation will be maintained.

**Standard for Which Exception Is Requested:**

**Index 202.2 Standards for Superelevation – Ramps, range of curve radii from 2,700 ft to 3,499 ft, e rate 0.04.**

**Reason for Requesting Exception:**

The existing on-ramp was constructed under project EA# 220124. The existing on-ramp is a 2 lane on-ramp (24ft wide) with 3 ft. AC side gutter/B4 curb left and 8 ft. right shoulders. This ramp will be widened to 3 lanes, with 1 HOV preferential lane and 2 mixed flow lanes, and with standard shoulders. The widening will conform to the existing ramp superelevation.

At the existing superelevation rate of 0.02, by Figure 202.2, the maximum comfortable speed is 70mph. Upgrading the existing nonstandard superelevation rate in accordance with the 2006 Highway Design Manual would involve upgrading the superelevation rate to 0.04 at which the maximum comfortable speed is 75 mph. This gain in benefits is beyond the maximum driving speed limit of this ramp roadway and would create a relatively significant disruption to traffic and local business. Additionally, accident history has shown that the existing nonstandard superelevation has not caused accidents along the ramp.

**Added Cost to Make Standard (Dose not included cost of environmental impacts):**

Roadway work	\$12,000,000 (estimated)
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**d. Design Exception Feature #4**

SB101/Fashion Island Boulevard Diagonal On-Ramp: The existing 516 ft radius curve approaching the freeway has nonstandard superelevation with an e rate of less than 0.03. No superelevation improvements are proposed for this ramp and the existing nonstandard superelevation will be maintained.

**Standard for Which Exception Is Requested:**  
**Index 202.2 Standards for Superelevation – Ramps, range of curve radii 625 ft & under, e rate 0.12.**

**Reason for Requesting Exception:**

This on-ramp has 12 ft. lane width with 4 ft. left and 8 ft. right shoulders. This ramp will be widened to 2 lanes, with 1 mixed flow and 1 HOV preferential lane, and operate as a 2-lane metered on-ramp up to the limit line. The proposed HOV lane will have 12 ft lane width with 8 ft. right shoulders.

With the existing ramp condition, the superelevation of this ramp cannot be corrected because of geometrical constraint by the adjacent 101 freeway, the Route 92 overpass, and the Route 92 to SB 101 connector on-ramp. At the existing superelevation rate of 0.03, by Figure 202.2, the maximum comfortable speed is 38mph. Upgrading the existing nonstandard superelevation rate in accordance with the 2006 Highway Design Manual would involve upgrading the superelevation rate to 0.12 at which the maximum comfortable speed is 47 mph. the gain in benefits is insignificant as compared to the costs of rebuilding the ramp, and additional paving.

In addition, accident history has shown that the existing nonstandard superelevation has not caused accidents along the ramp.

**Added Cost to Make Standard (Dose not included cost of environmental impacts):**

Roadway and Ramp Meter equipment	\$5,000,000 (estimated)
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**3. TRAFFIC DATA**

The current and forecasted (2020 & 2030) demand volumes (peak hour) for the four on-ramps are shown in the following Table. Projected year 2020 and 2030 traffic volumes were obtained from Caltrans – District 4/Modeling and Traffic Forecasting.

**SM 101 On-ramp Current and Forecasted Demand Traffic Volumes**

Ramp	Dir	AM Peak (vph)	PM Peak (vph)	2020 AM Peak (vph)	2020 PM Peak (vph)	2030 AM Peak (vph)	2030 PM Peak (vph)
Fashion Island Blvd.	NB 101	496	531	427	578	478	651
Fashion Island Blvd. Diagonal	SB 101	645	518	563	731	630	876
Produce Ave/Airport Blvd Diagonal	SB 101	1238	2214	1479	2389	1534	2389
Harney Way Diagonal	SB 101	378	338	350	277	350	277

**4. ACCIDENT ANALYSIS**

The accident rates in following Table were obtained from Traffic Accident Surveillance and Analysis (TASAS) Table B (Accident Rate Calculation) for a three-year period from 2004 to 2007. The accident rates are in Accident Rates/Million Vehicle Miles.

SM 101 NB ON FROM FASHION ISLAND BLVD

Only one accident occurred on this ramp at PM 12.034 during the three-year period from April 1, 2004 through August 31, 2007. The following accident rates for this period show the total actual accident rate of 0.22 acc/mvm lower than the average accident rate of 0.80 for similar facilities statewide.

No.	Acc	Fat	Inj	Wet	Dark	*Per Million Vehicle Miles					
						*Actual Acc. Rates			*Average Acc. Rates		
						F	F+I	Total	F	F+I	Total
1	0	1	0	0	.000	0.22	0.22	.002	.32	0.80	

The 1 accident fall into the following collision type categories:

No. Of Accident	Type of Collision	Percent
0	Head-On	0
0	Sideswipe	0
0	Rear End	0
0	Broadside	0
0	Hit Object	0
0	Overturn	0
0	Auto-Pedestrian	0
1	Other	100
0	Not Stated	0

Over the 3-year period, only one accident was recorded within the ramp. The proposed project is expected to lower, if not maintain, the accident rates at this location. The improvement will enhance the overall traffic operations.

SM 101 SB ON FROM HARNEY WAY

A total of 2 accidents occurred on this ramp at PM 25.914 during the three-year period from April 1, 2004 through August 31, 2007. The following accident rates for this period show the total actual accident rate of 0.53acc/mvm lower than the average accident rate of 0.60 for similar facilities statewide.

No. Acc	Fat	Inj	Wet	Dark	*Per Million Vehicle Miles					
					*Actual Acc. Rates			*Average Acc. Rates		
					F	F+I	Total	F	F+I	Total
2	0	0	0	2	.000	0.00	0.53	.002	.20	0.60

The 2 accidents fall into the following collision type categories:

No. Of Accident	Type of Collision	Percent
0	Head-On	0
0	Sideswipe	0
0	Rear End	0
0	Broadside	0
2	Hit Object	100
0	Overturn	0
0	Auto-Pedestrian	0
0	Other	0
0	Not Stated	0

Over the 3-year period, 2 Hit Object accidents were recorded within the ramp. The proposed project is expected to lower, if not maintain, the accident rates at this location. The improvement will enhance the overall traffic operations.

SM 101 SB ON FROM PRODUCE AVE

A total of 5 accidents occurred on this ramp at PM 21.386 during the three-year period from April 1, 2004 through August 31, 2007. The following accident rates for this period show the total actual accident rate of 0.24 acc/mvm lower than the average accident rate of 0.55 for similar facilities statewide.

SM101 RAMP METERING PROJECT  
 04-SM-101 PM 0.0/26.2  
 04-373-2A7900

No. Acc	Fat	Inj	Wet	Dark	*Per Million Vehicle Miles					
					*Actual Acc. Rates			*Average Acc. Rates		
					F	F+I	Total	F	F+I	Total
5	0	3	0	1	.000	0.15	0.24	.002	.19	0.55

The 5 accidents fall into the following collision type categories:

No. Of Accident	Type of Collision	Percent
0	Head-On	0
2	Sideswipe	40
1	Rear End	20
1	Broadside	20
1	Hit Object	20
0	Overtake	0
0	Auto-Pedestrian	0
0	Other	0
0	Not Stated	

Over the 3-year period, 5 accidents were recorded within the ramp. There are 2 Sideswipe, 1 Rear End, 1 Broadside and 1 Hit Object accidents. The proposed project is expected to lower, if not maintain, the accident rates at this location. The improvement will enhance the overall traffic operations.

SM 101 SB ON FROM FASHION ISLAND BLVD

A total of 4 accidents occurred on this ramp at PM 11.814 during the three-year period from April 1, 2004 through August 31, 2007. The following accident rates for this period show the total actual accident rate of 0.62 acc/mvm lower than the average accident rate of 0.80 for similar facilities statewide.

No. Acc	Fat	Inj	Wet	Dark	*Per Million Vehicle Miles					
					*Actual Acc. Rates			*Average Acc. Rates		
					F	F+I	Total	F	F+I	Total
4	0	2	0	3	.000	0.31	0.62	.002	.32	0.80

The 4 accidents fall into the following collision type categories:

No. Of Accident	Type of Collision	Percent
0	Head-On	0
0	Sideswipe	0
3	Rear End	75
0	Broadside	0
1	Hit Object	25
0	Overturn	0
0	Auto-Pedestrian	0
0	Other	0
0	Not Stated	0

Over the 3-year period, 4 accidents were recorded within the ramp. There are 3 Rear End and 1 Hit Object accidents. The proposed project is expected to lower, if not maintain, the accident rates at this location. The improvement will enhance the overall traffic operations.

**5. INCREMENTAL IMPROVEMENTS**

No incremental improvements are proposed for this project.

**6. FUTURE CONSTRUCTION**

There is no planned future construction for this on-ramp.

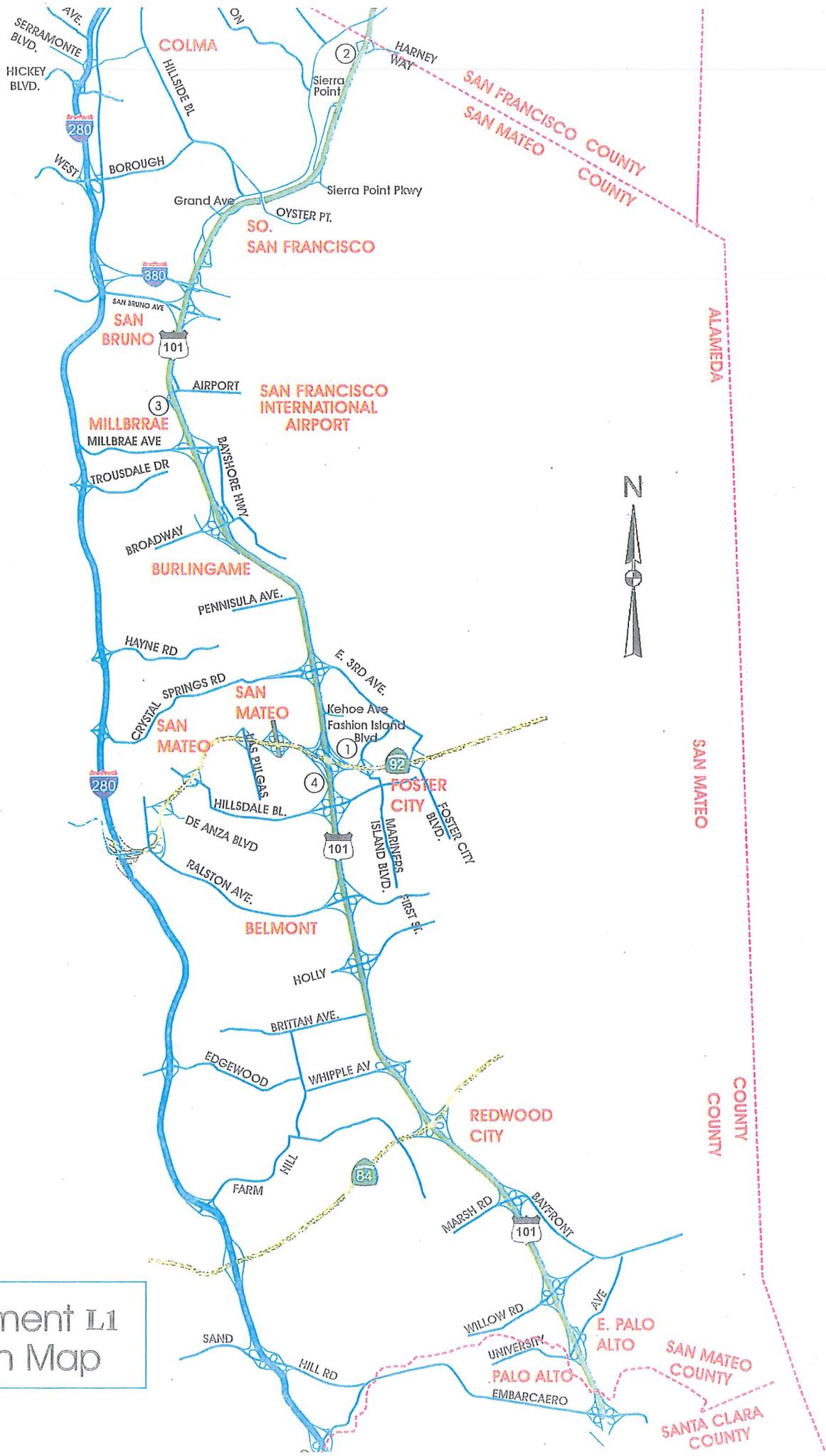
**7. PROJECT REVIEWS, CONCURRENCE**

The proposed design exceptions were reviewed by JD Bamfield, Headquarters Design Reviewer, on January 15, 2009 and his comments have been incorporated into this fact sheet and the project report.

**8. ATTACHMENTS**

The following attachments are provided for clarification:

- Attachment L1      Ramp Location Map
- Attachment L2      Layout and Typical Cross Section

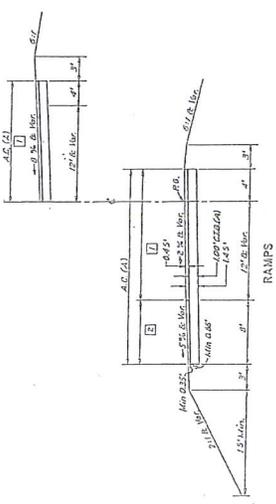


Attachment L1  
Location Map

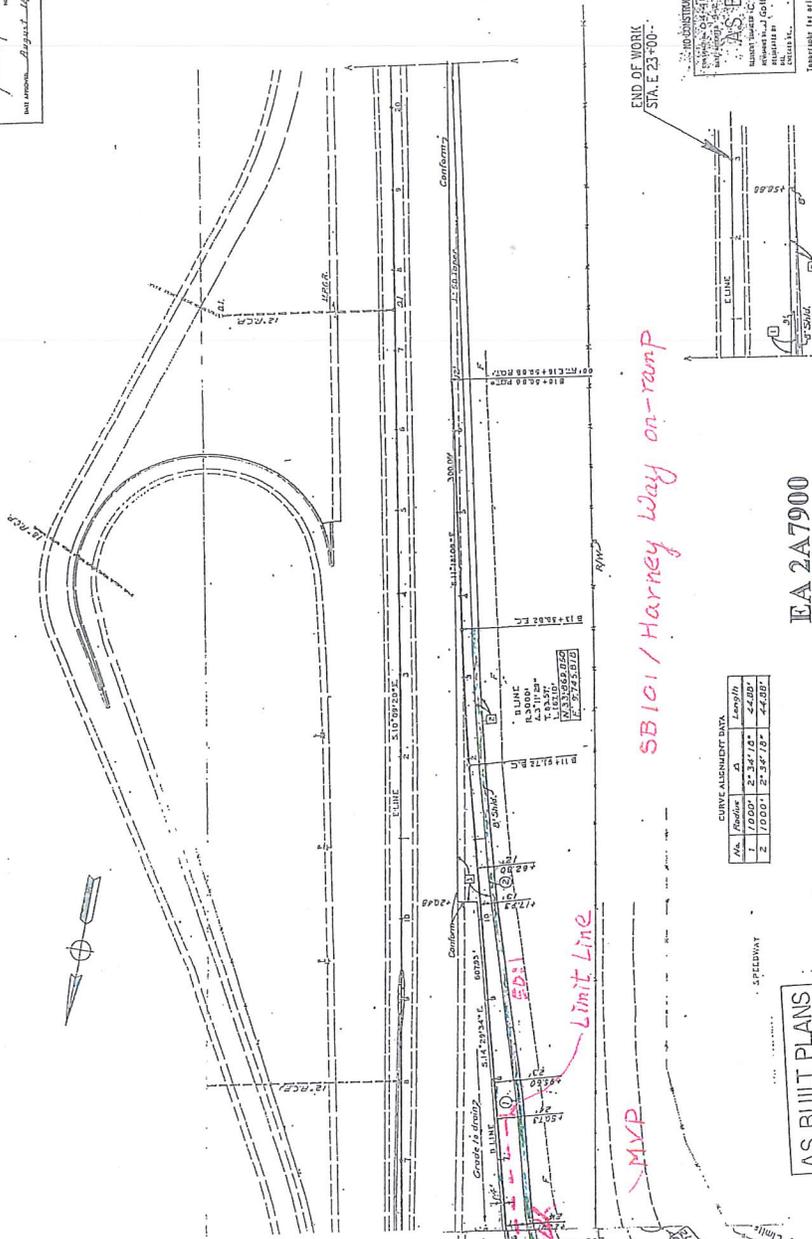




Project No.	101	257721	E
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Author	S. J. ...		
Check	...		
Appr.	...		
Date	...		



04-SALEP-01-257701  
 PROPOSED STATIONS  
 SHEET NO. 1



SB 101 / Harney Bay on-ramp

Sta.	Radius	Δ	Length
1	1000'	2° 34' 18"	44.80'
2	1000'	2° 34' 18"	44.80'

EA 2A7900

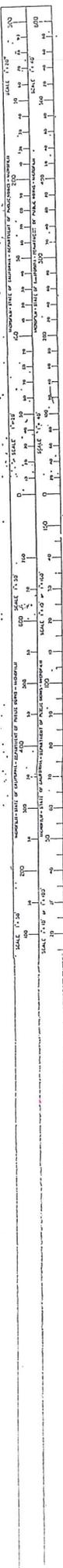
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 Document No. 257-16716

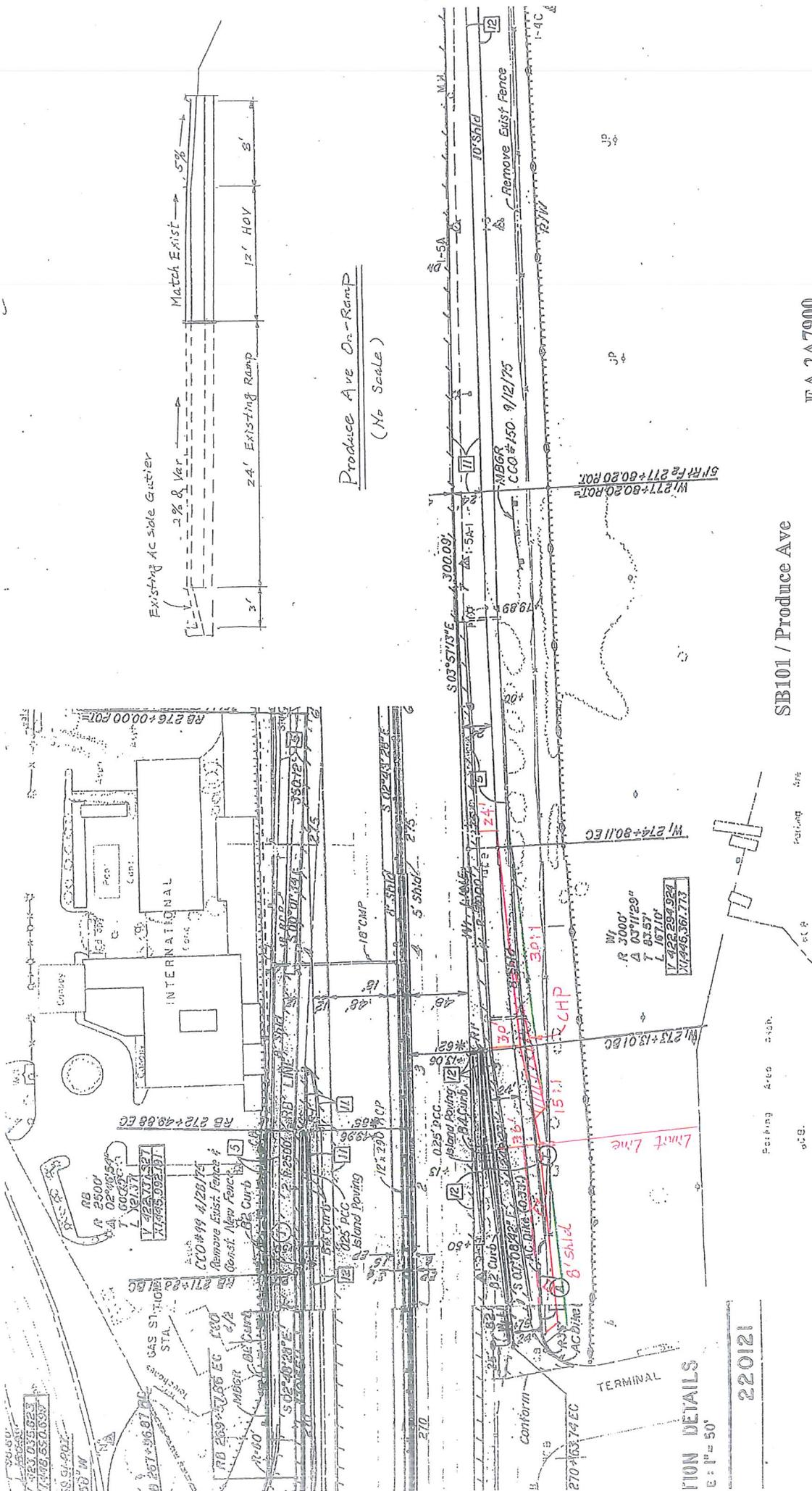
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CONSTRUCTION CHANGE  
 SCALE: 1" = 50'

CONSTRUCTION DETAIL  
 SCALE: 1" = 50'

Attachment L2-3





CONTRACT NO. 04-2  
 DATE ACCEPTED 2/25  
**AS B**  
 RESIDENT ENGINEER: M.W.  
 REVISIONS BY: A.L.  
 DELIVERED BY: B.Lop.

EA 2A7900  
 X1448000  
 Y422000

Attachment L2-4

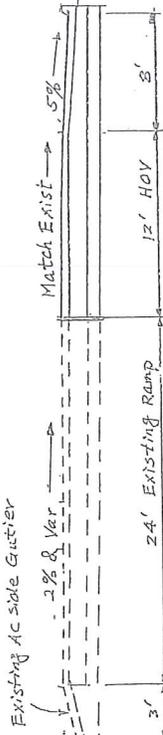
SB101 / Produce Ave  
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 Y422500

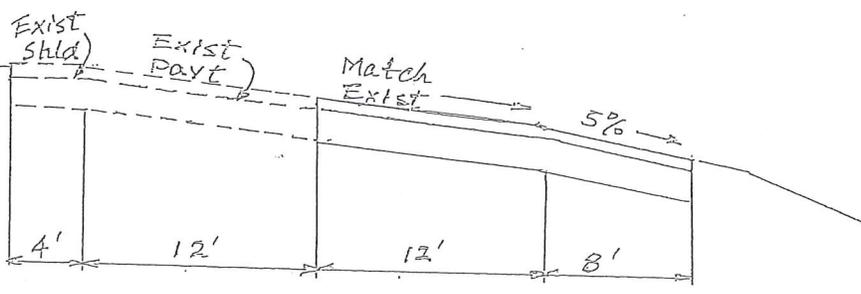
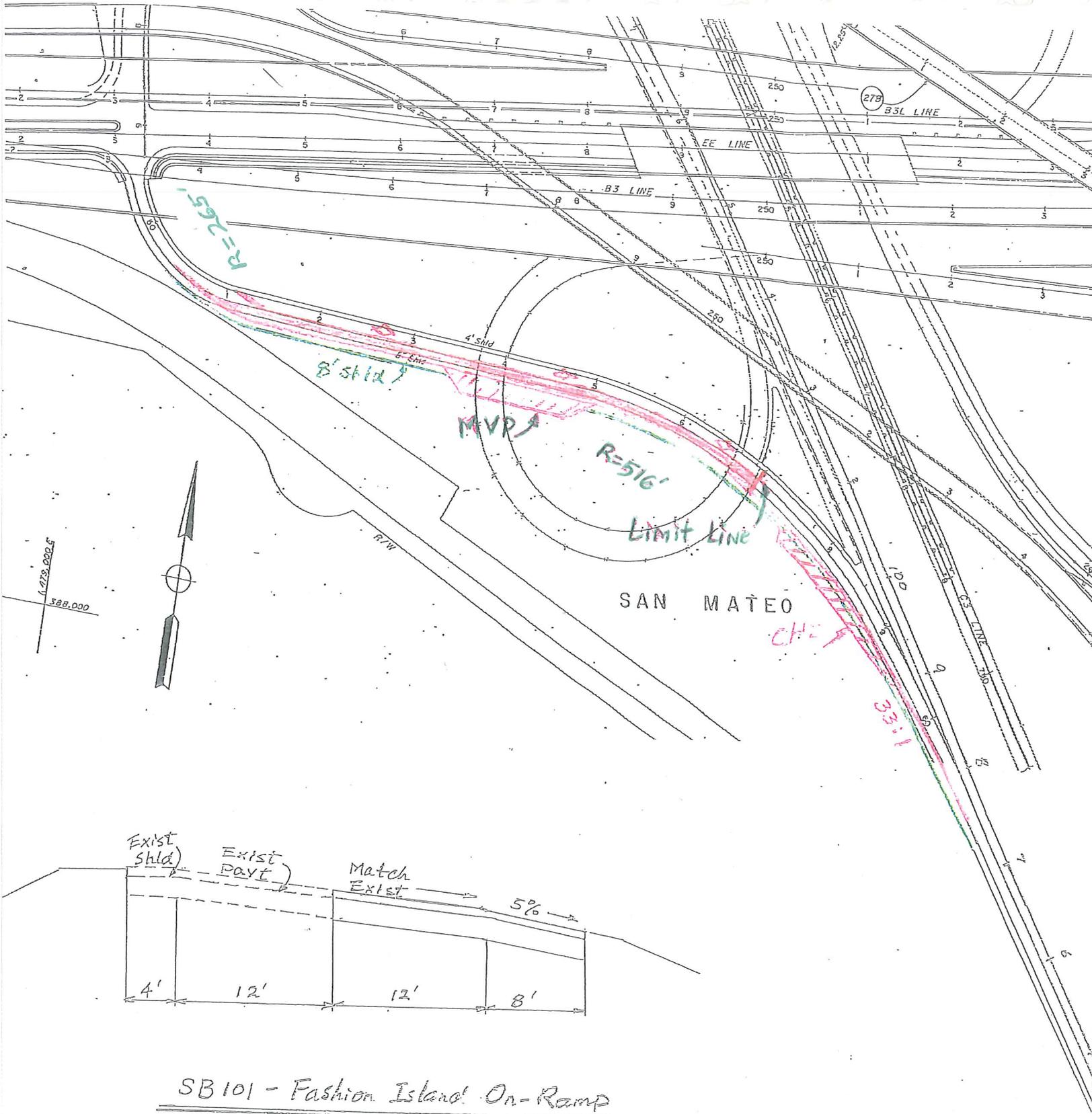
**AS BUILT PLANS**  
 Contract No 04-220124

ION DETAILS  
 E: 1" = 50'  
 220121

Produce Ave On-Ramp  
 (No Scale)



W 274+80.11 EC  
 W 277+60.20 ROT  
 W 277+60.20 ROT  
 W 274+80.11 EC  
 W 273+13.01 BC  
 W 272+49.88 EC  
 W 271+28.1 BC  
 W 269+72.86 EC  
 W 267+96.87 EC  
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SB101 - Fashion Island On-Ramp

No Scale

Attachment L2-5

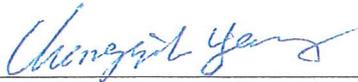
EA 2A7900

## **EXHIBIT 11-B**

Fact Sheet Exception To Advisory Design Standards

## Fact Sheet Exception to Advisory Design Standards

Prepared by:



Cheng Y. Yang, PE  
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Freeway System "B" Branch



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Lester Lee, PE  
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Approval recommended by:



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### C. SAFETY IMPROVEMENTS

The purpose of this project is to improve traffic operations on the US101 corridor in San Mateo County. The US101 in San Mateo County corridor is an access-controlled freeway. Due to high demand, this freeway currently experiences heavy congestion on a daily basis of 4 to 5 hours during morning and evening peak periods. One of the underlying causes for congestion and the breakdown in traffic flow on US101 is platoons of vehicles entering at un-metered on-ramps, and merging with the mainline traffic.

Ramp metering systems have been installed at on-ramps located between the University Avenue (near San Mateo County line) and the Hillsdale Boulevard interchanges, and at various locations north of Hillsdale Boulevard along US101 corridor. Other ramps in the corridor either have partially installed or have no ramp metering equipment. Because of the ramp metering system installed in fragments, the traffic operations in this corridor could not work efficiently to reduce the highway congestion.

This project will bring the ramp metering system along US101 in San Mateo County to the State's current guidelines for ramp metering equipment standards by complementing the existing ramp metering installation on the corridor.

### D. TOTAL PROJECT COST

The estimated construction cost of this proposed project, in 2008 dollars, is \$9.6 million. The cost breakdown is as follows:

Roadway	\$ 9.59 million
Right of Way	\$ 0.01 million
Total Costs	\$ 9.60 million

## 2. FEATURES REQUIRING AN EXCEPTION

### a. SB101/Harney Way Hook On-Ramp:

This existing 162 ft radius curve with existing nonstandard e rate of 0.08 approaching the freeway has nonstandard superelevation transition of two-thirds runoff length 93.08 feet.

Standard for Which Exception Is Requested:

Index 502.5A Standards for Superelevation Transition – Superelevation rate e 0.08, two-thirds of the superelevation runoff length of multilane ramp is 100 feet; Superelevation rate e 0.12, superelevation runoff length of multilane ramp is 240 feet.

**Reason for Requesting Exception:**

The existing hook on-ramp was constructed under project EA# 415104. This on-ramp currently varies from 2 to 1 lane wide, with 4 ft left and 8 ft. right shoulders. The ramp has an operational ramp metering system metering for post game and after special events from nearby Candlestick Park. When metered, this on-ramp operates as a 2-lane mixed flow metered on-ramp. This project proposes to overlay, re-stripe ramp to a standard 2-lane metered on-ramp with standard shoulders, and upgrade existing ramp metering equipment to current standards.

The existing superelevation rate of 0.08 with two-thirds of runoff length 93.08 feet occurs just east of the intersection where the ramp terminates. By Figure 202.5A, the minimum two-thirds of the runoff length for this ramp is 100 feet. The roadway tangent section (93.08 feet) between the ramp entrance and the beginning of the curve as well as curve radius and length of curve are very short, because of geometrical constraint by the Harney Way off-ramp, Beatty Ave and Alana Way. Upgrading the existing nonstandard runoff length in accordance with the 2006 Highway Design Manual would involve upgrading the superelevation rate to 0.12 and transition 240 feet. This Standard superelevation rate and transition cannot be attained within this curve. In addition, the accident history of the on-ramp, have shown that the existing nonstandard superelevation has not caused accidents along the ramp. Thus, no safety problems are expected to result from the existing superelevation rate and transition.

Added Cost to Make Standard (Does not include Right of Way and Environmental costs):

Roadway work	\$6,000,000 (estimated)
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b. SB101/Produce Avenue Diagonal On-Ramp:

The proposed compound lane drop transition taper rate (3 lanes to 2 lanes) has nonstandard average ratio of 22.5:1(longitudinal to lateral).

Standard for Which Exception Is Requested:

Index 504.3G Standards for Lane Drop Transition – Typical Freeway Entrance for Ramp Volumes >1500 VPH, 3-Lane Ramp Meter (2 mixed-flow lanes + 1 HOV lane) the lane drop transition between the ramp meter limit line and the 6 feet separation point should be accomplished with a taper of between 30:1 and 50:1.

Reason for Requesting Exception:

The geometrics of this ramp are constrained by the existing interchange geometry, the weaving length, the adjacent local city street (Produce Ave and Terminal Ct.), and available queue storage length on the on-ramp (during metering hours).

The existing configuration of the on-ramp has the minimum weaving length of 1,600 feet from Produce Ave on-ramp to the next off-ramp (the SB101 to WB380 connector off-ramp), which meets the requirement of index 504.7 of HDM (Highway Design Manual). In order to have available storage for queued cars behind the proposed ramp meter limit line, 162 feet of storage length will be provided for each on-ramp lane (between local street intersection and ramp meter limit line).

With the constrained geometric conditions, a compound lane drop transition rates are considered for this on-ramp. A 15:1 taper is provided from the limit line to the end of curb (between freeway mainline and on-ramp); and a 30:1 taper is provided from the end of curb to end of the third lane transition to two lanes. The average taper rate for this on-ramp is 22.5:1, which is above the mandatory minimum of 15:1.

Further realignment of this ramp to make a standard taper will decrease the minimum standard weaving length (between the Produce Avenue on-ramp and Route 101/380 connector off-ramp) and reduce the amount of available storage for the metered on-ramp during metering hours.

Another alternative of making a standard taper will be to relocate/realign the Produce Ave and Terminal Ct intersection further north. This will provide access to the Golden Gate Produce Terminal and surrounding businesses to Produce Avenue. There will be high Right of Way cost and potential environmental impact to Colma Creek, which empties to the San Francisco Bay.

Added Cost to Make Standard (Does not include Right of Way and Environmental costs):

Roadway \$1,200,000 (estimated)

### 3. TRAFFIC DATA

The current and forecasted (2020 & 2030) demand volumes (peak hour) for the SB SM 101 Produce Ave Diagonal on-ramps is shown on the following table. Projected year 2020 and 2030 traffic volumes were obtained from Caltrans – District 4/Modeling and Traffic Forecasting.

SM 101 On-ramp Current and Forecasted Demand Traffic Volumes

Ramp	Dir	AM Peak (vph)	PM Peak (vph)	2020 AM Peak (vph)	2020 PM Peak (vph)	2030 AM Peak (vph)	2030 PM Peak (vph)
Harney Way Diagonal	SB 101	378	338	350	277	350	277
Produce Ave/Airport Blvd Diagonal	SB 101	1238	2214	1479	2389	1534	2389

4. ACCIDENT ANALYSIS

The accident rates in following Table were obtained from Traffic Accident Surveillance and Analysis (TASAS) Table B (Accident Rate Calculation) for a three-year period from 2004 to 2007. The accident rates are in Accident Rates/Million Vehicle Miles.

SM 101 SB ON FROM HARNEY WAY

A total of 2 accidents occurred on this ramp at PM 25.914 during the three-year period from April 1, 2004 through August 31, 2007. The following accident rates for this period show the total actual accident rate of 0.53acc/mvm lower than the average accident rate of 0.60 for similar facilities statewide.

No. Acc	Fat	Inj	Wet	Dark	*Per Million Vehicle Miles					
					*Actual Acc. Rates			*Average Acc. Rates		
					F	F+I	Total	F	F+I	Total
2	0	0	0	2	0.000	0.00	0.53	0.002	0.02	0.06

The 2 accidents fall into the following collision type categories:

No. Of Accident	Type of Collision	Percent
0	Head-On	0
0	Sideswipe	0
0	Rear End	0
0	Broadside	0
2	Hit Object	100
0	Overturn	0
0	Auto-Pedestrian	0
0	Other	0
0	Not Stated	0

Over the 3-year period, 2 Hit Object accidents were recorded within the ramp. The proposed project is expected to lower, if not maintain, the accident rates at this location. The improvement will enhance the overall traffic operations.

SM 101 SB ON FROM PRODUCE AVE

A total of five accidents occurred on this ramp at PM 21.386 during the three-year period from April 1, 2004 through August 31, 2007. The following accident rates for this period show the total actual accident rate of 0.24 acc/mvm lower than the average accident rate of 0.55 for similar facilities statewide.

No. Acc	Fat	Inj	Wet	Dark	*Per Million Vehicle Miles					
					*Actual Acc. Rates			*Average Acc. Rates		
					F	F+I	Total	F	F+I	Total
5	0	3	0	1	0.000	0.15	0.24	0.002	0.19	0.55

The five accidents fall into the following collision type categories:

No. Of Accident	Type of Collision	Percent
0	Head-On	0
2	Sideswipe	40
1	Rear End	20
1	Broadside	20
1	Hit Object	20
0	Overturn	0
0	Auto-Pedestrian	0
0	Other	0
0	Not Stated	0

Over the 3-year period, five accidents were recorded within the ramp. There are two Sideswipes, one Rear End, one Broadside and one Hit Object accidents. The proposed project is expected to lower, if not maintain, the accident rates at this location. The improvement will enhance the overall traffic operations.

5. INCREMENTAL IMPROVEMENTS

No incremental improvements are proposed for this project.

6. FUTURE CONSTRUCTION

There is no planned future construction for this on-ramp.

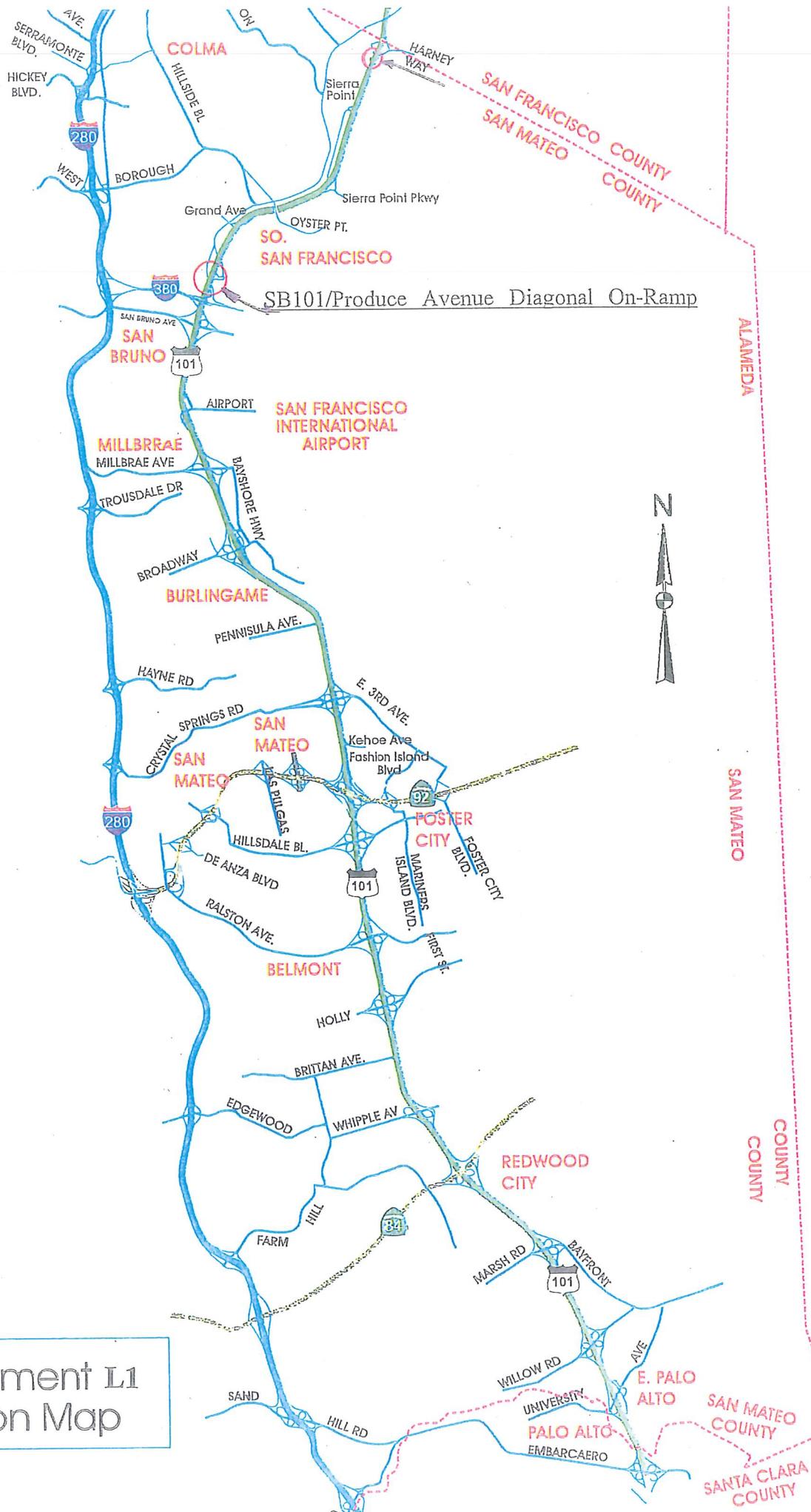
7. PROJECT REVIEWS, CONCURRENCE

The proposed design exceptions were introduced to J. D. Bamfiled, Headquarters Design Reviewer and discussed at a meeting on December 23, 2008. A draft of this Fact Sheet was submitted on February 3, 2009, 2009 and reviewed by J. D. Bamfiled. His comments have been incorporated into this fact sheet.

8. ATTACHMENTS

The following attachments are provided for clarification:

Attachment L1	Ramp Location Map and Aerial photo
Attachment L2-3	Layout and Typical Cross Section of Harney Way
Attachment L2-4	Layout and Typical Cross Section of Produce Ave



Attachment L1  
Location Map



Google

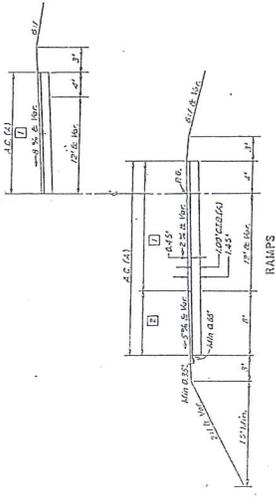
Eye Alt 201 m

Jul 2007

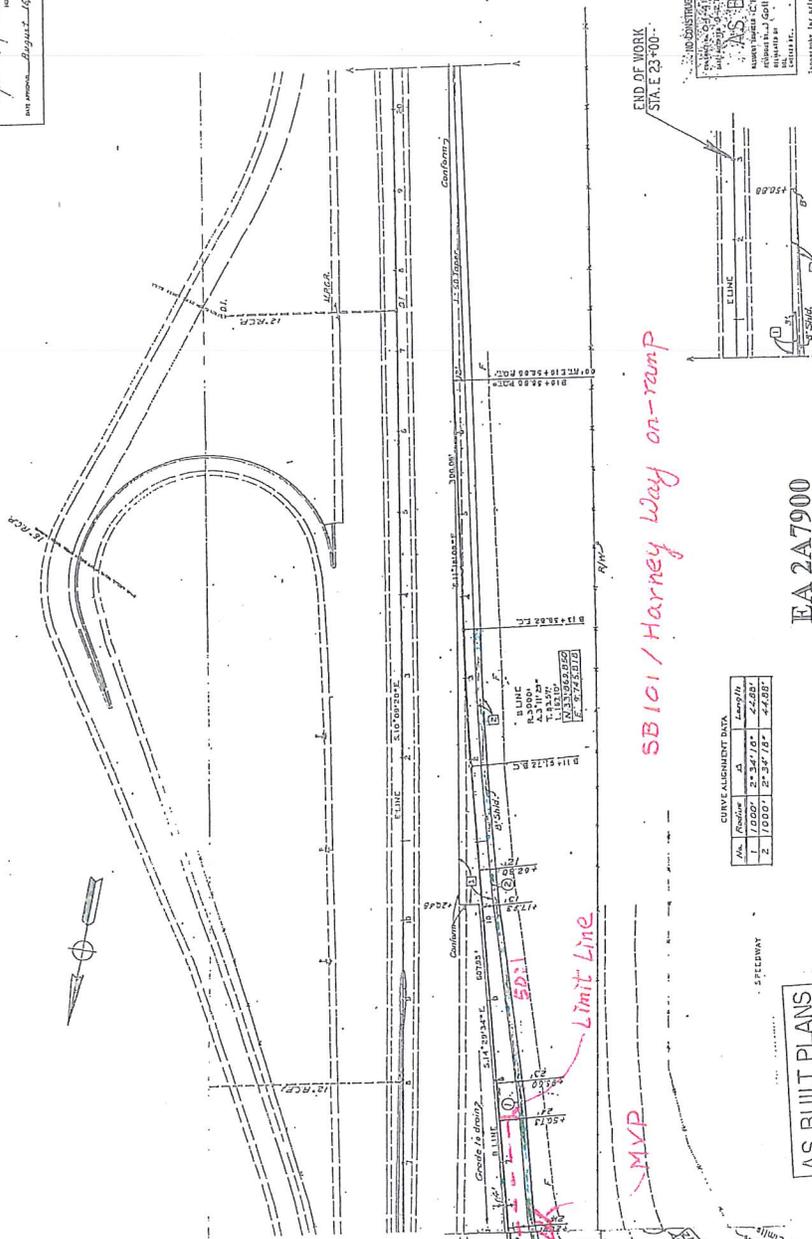
© 2009 Tele Atlas  
elev 6 m

37°42'23.84"N 122°23'44.81"W

DATE	BY	CHKD	APP'D
01/23/21	[Signature]	[Signature]	[Signature]



04-EM-21-10-287/01  
 PROPOSED SECTIONS  
 SCALE 1/8"=1'-0"



SB101 / Harney Way on-ramp

Limit Line

MVP

Sta.	Radius	Δ	Length	Area
1	1,000'	21.347°	4,228'	
2	1,000'	27.347°	4,428'	

EA 2A7900

AS BUILT PLANS  
 Contract No. 11-11-11-12  
 Date Completed 11-11-12  
 Document No. 04-6716

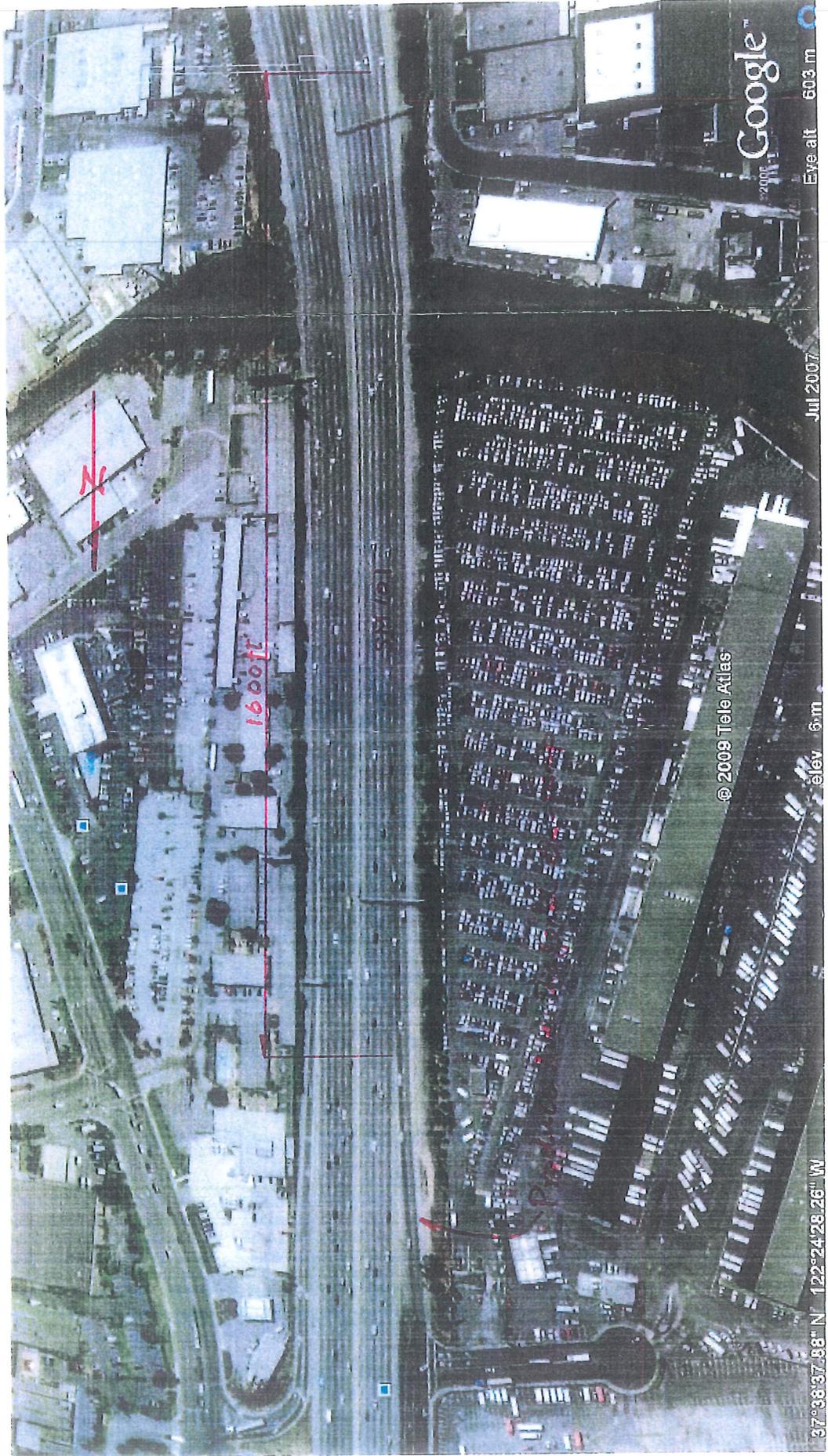
END OF WORK  
 STA. E 23+00

NO CONSTRUCTION CHANGE  
 AS BUILT  
 ALL DIMENSIONS SHOWN ARE AS BUILT  
 UNLESS OTHERWISE NOTED  
 CONTRACTOR'S RESPONSIBILITY  
 TO VERIFY ALL DIMENSIONS  
 BEFORE CONSTRUCTION  
 CONSTRUCTION DETAIL  
 SCALE: 1" = 50'

Attachment L2-3







37°36'37.88" N 122°24'28.26" W

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Eye alt 603 m

EA#: 2A7900